



# THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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MURRAY R. EDELMAN  
VICE PRESIDENT  
NUCLEAR

March 18, 1985  
PY-CEI/NRR-0206 L

Mr. B. J. Youngblood, Chief  
Licensing Branch No. 1  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Perry Nuclear Power Plant  
Docket Nos. 50-440; 50-441  
Additional Information on  
Stiff Pipe Clamps,  
Question No. 210.15

Dear Mr. Youngblood:

This letter and its attachment provides our response to your letter dated February 19, 1985 requesting additional information on stiff pipe clamps (Question 210.15), used at the Perry Nuclear Power Plant (PNPP).

Attachment 1 to this letter provides an evaluation which concludes that support stiffness will not be adversely affected by our clamp installation practice.

If you have any questions, please let me know.

Very truly yours,

Murray R. Edelman  
Vice President  
Nuclear Group

MRE:dlp

Attachment

cc: Jay Silberg, Esq.  
John Stefano (2)  
J. Grobe

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If the torque values, whether high or low, are required for the functional adequacy of the applicable support, it is requested that your staff provide a further technical justification for not performing post-installation/operational verifications. Specifically, it is requested that the impact of lower pre-load torque values on the required stiffness of the support (as assumed in the piping stress analysis) be addressed in detail.

#### RESPONSE

High torque values were determined to be unnecessary and possibly undesirable from a piping stress standpoint. The lower torque values now assigned are for consistency in field installation, since no specific torque value is required to ensure functional adequacy of the "stiff" supports.

The original torque values (assigned by the vendor) are not applicable at PNPP for the following reasons.

1. Clamp slippage: PNPP uses shear lugs in conjunction with the stiff pipe clamps so no credit is taken for resistance to slippage.
2. Stiffness requirements: The stiffness of a "stiff" clamp without pretorque is compatible with those of other components in the support assembly. Lower pre-load torque values do not affect required stiffness of the support as assumed in the piping stress analysis. To achieve more stiffness by compressing the pipe by preload is neither necessary nor desirable for the protection of the piping system.
3. Lift-Off: Large lift-off of a clamp from the pipe under dynamic loads tends to impose local impact loads on the pipe when the gap is suddenly closed. However, a gap of approximately 1/16" between support and pipe contact surfaces is typically not accounted for in the analysis. It is unnecessary to require absolutely no lift-off of clamps unless it is specifically required for very unusual analytical situations, which are not applicable to Perry.

As described above, no specific torque value is required to ensure functional adequacy of the "stiff" supports. The standard in-service inspections are adequate to verify post-installation/operational capabilities of these clamps in a manner comparable to other standard pipe clamps.